

# Determinants of Intention to Recommend WeChat Mobile Payment Innovation in China to be implemented in Indonesia

Ikramina Larasati Hazrati Havidz<sup>1</sup>, M. Havidz Aima<sup>2</sup>, Hernawati W. Retno Wiratih<sup>3</sup>

<sup>1</sup>School of Management, Wuhan University of Technology, Wuhan, P. R. China, 430070

Email: ikramina7510@yahoo.com

<sup>2</sup>Faculty of Economic, Mercu Buana University, Jakarta, Indonesia, 11650

Email: havidz.aima@yahoo.com

<sup>3</sup>Faculty of Economic, President University, Jababeka, Cikarang Baru, Indonesia, 17550

Email: hernawati\_life@yahoo.com

**Abstract**— Mobile payment has received its importance recognition from the global society including government and businesses. It can lead to operation cost reduction on the cash-paper production on the Bank. Additionally, to familiarize the mobile payment utilization to the society has found to be a tough task for businesses and government. Therefore, the current study has objective to examine the determinants of intention to recommend mobile payment technology on the society. Hence, the authors picked WeChat mobile payment innovation in China as the mobile payment innovation method used to analyze the intention to recommend the utilization of mobile payment. The collected data were analyzed by the utilization of Partial Least Square (PLS)- Structural Equation Modelling (SEM) v. 3.2.7 and IBM SPSS Statistic 24. UTAUT 2 Theory, perceived technology security, and customer satisfaction were employed to examine the issues appear in the current study but hedonic motivation, price value, habit and the moderators role were excluded. Therefore, the findings indicate that perceived technology security have a positive significant relationship while performance expectancy, effort expectancy, facilitating conditions, and social influence have a positive insignificant relationship on behavioral intention to adopt WeChat mobile payment. Moreover, Behavioral intention to adopt WeChat mobile payment and customer satisfaction have a positive significant relationship on the intention to recommend the designated technology. It also signified that perceived technology security is having indirect effect to behavioral intention to recommend WeChat mobile payment innovation.

**Keywords**— UTAUT 2 Theory, Perceived Technology Security, Customer Satisfaction, Behavioral intention to recommend.

## I. INTRODUCTION

Digital era is a popular term in present society. It is not only popular among the society at the national level but also among international level. This phenomenon happened with the development of Information and Communication Technology (ICT) that keep upgrading its performance. Currently, there are various sources and channels of information available online. It is defined by Senthil Kumar, Saravananumar, & Deepa (2016) that the internet emerged as the development of ICT is now widely used by information seekers in order to satisfy their information needs. Social media is one of many other online platforms that occur as the result of internet technology usage. The development of social media grows very fast from year to year. Social media has become an integral part of modern society. There always has a virtual space that gains the users' interests. The social media accounts provide many utilities where users are able to share photos, videos, recent status, greet each other, and meet virtually (Rohm, Kaltcheva, & Milne, 2013).

In emerging society, Social media is a means to meet the need for a variety of communications that appear in the community. Moreover, social media defines a platforms run by the means of mobile communication technology use which has been one of the vast growth in internet technology consumption (Kaplan & Haenlein, 2010). Indonesia, Singapore, India, Malaysia, and the Philippines signifies less than four percent of the utilization of mobile payment technology. Some

supporting factors behind these low utilization of mobile payment occur because of the immature local regulation presence in Asia countries. The emerged of great business model promotes by countries and companies to the society has been big challenges for practitioners. Moreover, the behavior that has become a habit on the society regarding cash payment where they can feel and see the item physically for decades lead to less recognizable of cashless payment on the society (KPMG Indonesia, 2017). Fairly said, the critical factors to outspread the benefit of mobile payment do not only come from the activities introduced by the countries or companies rather than the intention of the individual itself to utilize mobile payment. Individual or society mindset or point of view must be adjusted with the advance knowledge to increase ones intention to embrace mobile payment (Gaurav & Sharma, 2017).

The major reasons for less awareness by the society to embrace mobile payment for their daily transaction activity is because they feel unfamiliar with the technology. The absence of convenience for the payee to do transaction by the utilization of mobile device with small phone screen leads to another reason that supports the society less awareness. Additionally, perceived security has been society basic consideration to conduct a cashless payment once the payee wants to commit a transaction activity (Purwanegara, Apriningsih, & Andika, 2014).

Currently, there are 21 companies (provider) specializing in mobile payment with various services granted in Indonesia. The services vary from e-Wallet, prepaid cards, payment gateway, prepay cards, switching remittance, m-Wallet, and other payment services (KPMG Indonesia, 2017). China itself has two key mobile payment applied by the society Aveni & Roest, (2017); Ali Pay powered by Alibaba's Financial Affiliate and WeChat Pay powered by Tencent and Ant Financial. It is written in the report of Boellstorff et al. (2013) that the presence of social media platforms in line with the rising mobile payment lead to be challenging among practitioners. The penetration growth of users on social media platforms around the globe keeps increasing annually (Kemp, 2018). Additionally, the leveraged growth on social media platforms is expected to lead to high penetration of mobile payment on the behalf of social media platforms. However, a report issued by Agusta & Hutabarat (2018) clearly defined that mobile payment on the behalf of social media platforms does not has a major influence on Indonesia's market. It clearly stated as not even a single mobile payment in the form of social media chat such as Line Payment and Blackberry e-Wallet reached the top ten most used mobile payment in the country. Line Payment is a social media messaging

platforms collaborate with PT. Bank Mandiri (Persero) Tbk to offers mobile payment features. Meanwhile, Blackberry e-Wallet is a mobile payment feature that provides by Blackberry Messenger in the representation of social media chat platforms powered by PT. Bank Permata.

Interestingly, China is the one and only country that has received its mass recognition from the society on the utilization of mobile payment in Asia. While most developing countries in Asia including Indonesia have their battles on the market to receive recognition from the online community concerning the mobile payment utilization. Mobile payment provider in China is owned by only two giant providers that are Tencent and Ant Financial and Alibaba's Financial Affiliate. Alibaba's Financial Affiliate with its Ali Pay was first launched to the society in 2008 while Tencent and Ant Financial with its WeChat Pay was first launched to the community in 2013 (Aveni & Roest, 2017). Moreover, despite the first recognition received on mobile payment in China by Ali Pay with its eCommerce application features, WeChat pay with its social media chat feature is able to race the performance of Ali Pay. Ali Pay has taken the second world rank on the utilization of mobile payment after WeChat Pay (Statista, 2017; Gaurav & Sharma, 2017).

Moreover talk, Kemp (2018) published a surprising fact on their work paper that China was not even categorized on the world top ten social media users by growth. China was categorized on the seventeenth world rank on social media users by growth once Indonesia took the third place. It such an impressive work of WeChat Pay as the services can perform great ability on the mobile payment utilization compare to the remaining country with a higher number of social media users by growth. Therefore, authors put high interests to learn and explore in depth regarding WeChat Pay launched and run until the present time in China. Authors found WeChat pay as an interesting issue that must be explored to gain the secret recipe of the trick in promoting mobile payment features with social media platforms as the mediator in a country with lower rank on social media users' growth compare to Indonesia. Additionally, WeChat pay can even surpass the country with a higher number of social media users by growth as the service has taken the first world rank on the leading mobile payment. WeChat mobile payment innovation can be a solution for the employment of mobile payment with social media platforms as the mediator. It is expected that Indonesia may perform better in term of mobile payment by the means of social media platforms utilization as the country has taken the third world rank on social media users' by growth. Indonesia market offers high opportunities for companies and government in the recognition of mobile

payment by the use of social media platforms. However, as it has been stated in the previous paragraph that the influential mobile payment method in Indonesia does not arise from the social media platform utilization. The current study is not classified as the first research paper on mobile payment as the topic relates to mobile payment has been discussed across the worldwide practitioners (Dahlberg et al., 2008; Dahlberg, Guo, & Ondrus, 2015; Woetzel et al., 2014; Wang & Gu, 2017; Rajanna, 2018; Ferreira et al., 2017). Prior studies have discussed mobile payment more to the use on eCommerce platforms. There are view researchers (Aveni & Roest, 2017; Matemba & Li, 2017; W. Xu, 2017) that have discussed the opportunities and challenges of mobile payment through the use of social media platforms. Hence, the authors intended to discuss regarding mobile payment powered by social media chat platforms. Authors have high interest to know more and portray whether the mobile payment innovation powered by WeChat pay in China is a recommendable mobile payment innovation to be adopted toward economic purposes of Indonesia.

## II. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

UTAUT 2 is one of the latest theory published by Venkatesh, Thong, & Xu (2012) concerning the presence of technology development in emerging economies around the world. Therefore, it is taken by authors as the theory adopted to assist authors in examining particular issues arise in the research paper. Additionally, the authors of UTAUT 2 Theory have done some breakthrough by combining prior studies that discuss the theory related to the technology movement. Given statement by Chang (2012) the mixed up theories consisting of Innovation Diffusion Theory (IDT), Theory of Reasoned Action (TRA), the Model of PC Utilization (MPCU), Motivational Model, Technology Acceptance Model (TAM), Combined TAM and TPB, Social Cognitive Theory, and Theory of Planned Behavior (TPB). Therefore, authors build the hypotheses refers to UTAUT 2 Theory with some adjustment to fit the current study. Performance expectancy, effort expectancy, social influence, and facilitating conditions are the independent variable measuring the dependent variable of behavioral intention to adopt WeChat mobile payment innovation. Additionally, Behavioral intention to adopt WeChat mobile payment innovation and customer satisfaction are the independent variable to measure the dependent variable of behavioral intention to recommend WeChat mobile payment innovation. Hence, the authors will describe the proposed hypothesis development to satisfy issues arise in the current study.

The purpose of the establishment of UTAUT 2 Theory is to provide a better understanding of the mentioned factors in the previous paragraph toward practitioners and academician. It can assist practitioners in a company and academician to frame out the issues that can affect the user in utilizing a particular technology. However, moderator effect have been excluded from the current study.

### 2.1. The Relationship of Performance Expectancy toward Behavioral Intention to Adopt WeChat Mobile Payment Innovation

Performance expectancy refers to the extent of an individual trust that using a technology give the individual some benefits related to the activity performed by them. Once an individual demand on having a better performance has been satisfied, it will be more likely that the individual will generate their behavioral intention to use a particular technology. In this term, Jackson, Yi, & Park (2013) certify that an individual will generate the behavioral intention to adopt WeChat mobile payment innovation once the individual has experienced usefulness of using the mentioned technology. The relationship of performance expectancy generating the behavioral intention to adopt particular technology has also been discussed by various academicians (Venkatesh et al., 2012); Venkatesh et al., 2003; Oliveira et al., 2016). Hence, the authors proposed the hypothesis development as mentioned below.

H1: Performance Expectancy (PE) has positive significant effect in generating the behavioral intention to adopt (IA) WeChat mobile payment innovation.

### 2.2. The Relationship of Effort Expectancy toward Behavioral Intention to Adopt WeChat Mobile Payment Innovation

The level of easiness gain by an individual once the individual utilizes a technology is somehow defines the essence of effort expectancy. Ease of use on a particular technology may generate one's individual's interests and lead to satisfying one's comfort. It was defined by Sung, Jeong, Jeong, & Shin, (2015), Chen & Huang (2012), and Nikou & Economides (2017) in their study that once persons are able to feel the easiness offers by particular technology while they are consuming it, it leads to the leveraging on the behavioral intention to apply particular technology. It is in line with the former theory of UTAUT (Venkatesh et al., 2003) and UTAUT 2 (Venkatesh et al., 2012). In this case, Wechat mobile payment innovation is the technology to be discussed. WeChat mobile payment innovation may be one of the breakthrough technology in the field of mobile payment. Therefore, it is expected WeChat mobile payment contain easiness in it where it may lead to the behavioral intention of the aforementioned mobile payment. Hence, authors

proposed the hypothesis development as mentioned below.

H2: Effort expectancy (EE) has a positive significant effect in generating the behavioral intention to adopt (IA) WeChat mobile payment innovation.

### 2.3. The Relationship of Social Influence toward Behavioral Intention to Adopt WeChat Mobile Payment Innovation

A human being is born to be a social life being. In general occasion, every individual on an environment regardless of the location, race, ethnic, and country, will experiences a social life being. In such a simple example, most of individual will lean on their family as their inner circle on a social life being. Most of individual usually will be easily affected by their environment. It is reinforced in the finding of Oliveira et al (2016) and Yu, Lin, & Liao (2017) that the opinion expressed by someone close to a person will more likely encourage ones' behavioral intention to adopt mobile payment. In this case, it signifies the behavioral intention to utilize WeChat mobile payment innovation. It has definitely been proved under the study of Venkatesh et al (2003) and Venkatesh et al (2012) that people who are important, people who influence, and people shared opinion are the major factor in leveraging the behavioral intention to adopt a technology. Pertaining to these, the proposed hypothesis development will be mention below.

H3: Social Influence (SI) has a positive significant effect in generating the behavioral intention to adopt (IA) WeChat mobile payment innovation.

### 2.4. The Relationship of Facilitating Conditions toward Behavioral Intention to Adopt WeChat Mobile Payment Innovation

Facilitating conditions refers to the extent to which one believes that the presence of particular technology supports their performance. Once an individual has decided to utilize a particular technology, the supporting infrastructure is a major needed in order to fully achieve the utilization of a technology. It has come with the idea that, one's interest in employing a particular technology will be useless if it lack of supporting facilities as one's interests cannot be channeled elsewhere. It is implied in the study of Venkatesh et al (2012) and Chen & Huang (2012) that in order to leverage the behavioral intention to adopt a particular technology, facilitating conditions must be boosted. In complying with current research, it discusses that the facilitating conditions leverage the behavioral intention to adopt WeChat mobile payment. Therefore, the authors proposed the hypothesis development as mentioned below.

H4: Facilitating conditions (FC) has a positive significant effect in generating the behavioral intention to adopt (IA) WeChat mobile payment innovation.

### 2.5. The Relationship of Perceived Technology Security toward Behavioral Intention to Adopt WeChat Mobile Payment Innovation

A study of Mohammed & Tejay (2017) acknowledged that perceived technology security plays a major role in determining ones' behavioral intention to adopt a particular technology. Perceived technology security is related to a person's judgments on their technology experience. Once a person has consumed a technology, a person will put high concern on the security provides on particular technology services. Therefore, once the person has experienced the technology security, it is able to affect one's intention to utilize the current technology (Oliveira et al., 2016). The discussed current technology in this section concern the mobile payment innovation that originated from WeChat, a social media chat platforms. Hence, the authors build the proposed hypothesis development as mention below.

H5: Perceived technology security (PTS) has a positive significant effect in generating the behavioral intention to adopt (IA) WeChat mobile payment innovation.

### 2.6. The relationship of Behavioral Intention to Adopt WeChat Mobile Payment Innovation on Behavioral intention to recommend

It is not a figment among the society where the behavioral intention to recommend happened as the effect given by the high intention of someone in adopting particular technology (Oliveira et al., 2016). It is because once a person has a high intention to adopt a particular technology and find it helpful to them, they will be more likely to share their experiences with others. Moreover, as the present society has been savvier with the presence of social media chat platforms, sharing experience will be much easier for them to do (Zhang et al (2015)). In comply with the current study, C. Xu et al (2015) stated that the high interest of ones' behavioral intention to adopt WeChat mobile payment innovation will lead to ones' willingness to endorse the adopted technology to others. Therefore, the below sentence is drawn to build the hypothesis development.

H6: Behavioral Intention to Adopt WeChat Mobile Payment Innovation (IA) has a positive significant effect on behavioral intention to recommend (IREC) WeChat mobile payment innovation.

### 2.7. The relationship of customer satisfaction on Behavioral intention to recommend

Basically, the essence of having a business is to create and gain a satisfied customer. Customer satisfaction is related to the means of the desire of a person that has been fully fulfilled. Customer satisfaction plays an important role in the market as it is one of the determinants that defines a success of businesses. Once practitioners are able to achieve customer satisfaction

from the potential customers or customers, practitioners may get some benefit affection. The individual will be more likely to form a recommendation concerning particular services utilized by them to others. Customer satisfaction will occur as the responses given by the customers once the expectation has met the actual performance of the perceived services or products. The occurrence of recommendation to others is not only happening due to the good services quality but because the customer satisfaction has met. Prior studies (C. Xu et

al (2015), Suchánek, et al (2017), and Finn, Wang, & Frank (2009) has strengthened that once a customer satisfaction satisfied, the individual intention to recommend particular services or products will increase. Hence, authors have drawn the proposed hypothesis development as written below.

H7: Customer satisfaction (CS) has a positive significant effect on behavioral intention to recommend (IREC) WeChat mobile payment innovation.

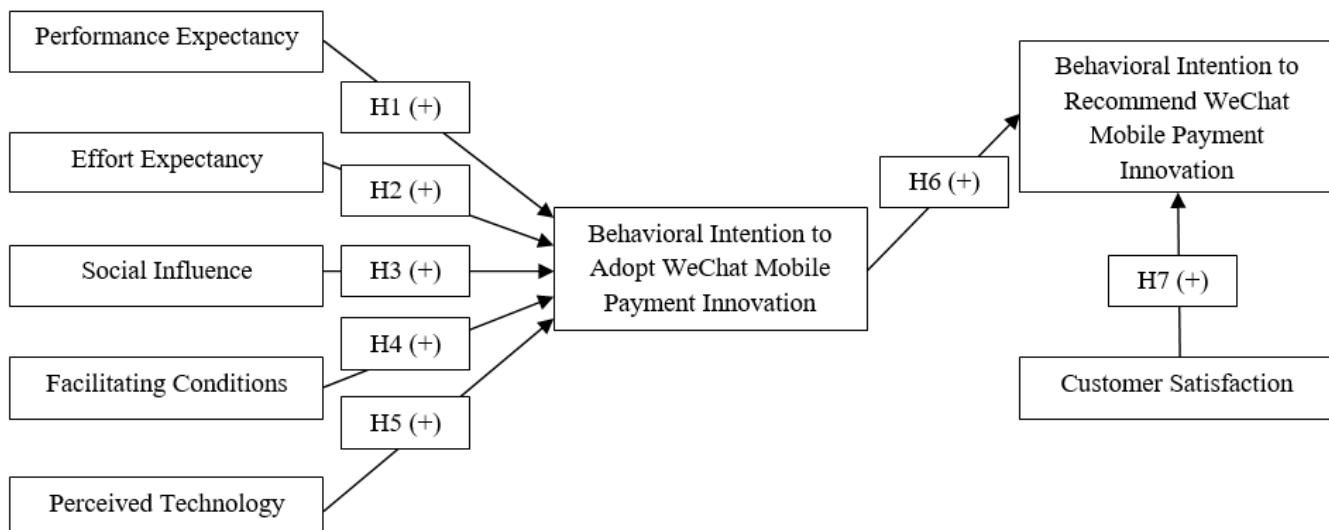


Fig.1: Proposed Research Model

### III. METHODOLOGY

#### 3.1. Sampling and Data collection

The study approach is based on a questionnaires survey of Indonesian users on WeChat mobile payment in China. The questionnaires were distributed through the online platform with the assistance of Google Forms. The Indonesian version of the questionnaires was adopted for the study purposes due to the aimed of respondents are Indonesian. However, the establishment of the questionnaires was designed based on the prior study that was written in an English version (refer to Appendix A). The Indonesian version of the questionnaires has passed some experts review before it was distributed to the respondents. The collected respondents vary from the various city in China. Moreover, the questionnaires were administered within 22 to 31 May of 2018. The study has gained 208 respondents, however, authors must eliminate

10 respondents because the answers did not meet the study purpose.

#### 3.2. Measurement Model

The study applied a confirmatory factor analysis (CFA) approach under the processing data tool of Partial Least Square (PLS) – Structural Equation Modelling (SEM). PLS-SEM was used to analyze the issues arisen in the study including the hypothesis testing. Additionally, IBM SPSS Statistic 24 was adopted to analyze the demographic data. The distributed questionnaires consist of two approach method that is based on multiple choice and 7 Likert Scale questions (*Strongly Disagree to Strongly Agree*).

Moreover, a pilot study was first implied to examine the reliability and validity consistency on the questionnaires. A study can have its further evaluation once a pilot study of a questionnaires indicates a proper value of the reliability and validity test.

Table 1. Quality Criterion (Cronbach's Alpha, Composite Reliability, AVE) and Factor Loadings

Constructs	Cronbach's Alpha	Composite reliability	AVE	Item	Loadings
Performance Expectancy	0.977	0.983	0.936	PE1	0.977
				PE2	0.944
				PE3	0.969
				PE4	0.980
Effort Expectancy	0.968	0.977	0.913	EE1	0.955
				EE2	0.960
				EE3	0.953
				EE4	0.953
Social Influence	0.926	0.953	0.871	SI1	0.955
				SI2	0.903
				SI3	0.942
Facilitating Conditions	0.974	0.981	0.927	FC1	0.964
				FC2	0.967
				FC3	0.966
				FC4	0.954
Perceived Technology Security	0.959	0.970	0.891	PTS1	0.931
				PTS2	0.952
				PTS3	0.929
				PTS4	0.963
Behavioral Intention to Adopt WeChat	0.980	0.987	0.962	IA1	0.985
				IA2	0.983
				IA3	0.974
				IA4	0.982
Customer Satisfaction	0.987	0.992	0.975	SAT1	0.987
				SAT2	0.993
				SAT3	0.982
				SAT4	0.982
Behavioral Intention to Recommend WeChat	0.990	0.993	0.971	IREC1	0.995
				IREC2	0.986
				IREC3	0.981
				IREC4	0.978

Source: Table derived from survey data

Nineteenth-19th respondents were collected for the pilot study. The pilot study signified that the questionnaire construct has proper models to be distributed to a large number of participants (refer to Table 1). According to the standard value to obtain a proper research data, factor loading and Cronbach's alpha shall be equal or more than 0.70, composite reliability shall be equal or exceed 0.60, Average Variance Extracted (AVE) shall be equal or exceed 0.50 (Fornell & Larcker, 1981; Bagozzi & Yi, 1988; Nunnally & Bernstein, 1994). Eleven respondents are counted as female respondents while the remains eight are male respondents. The pilot study indicates that most of the respondents are categorized as students consisting of postgraduates students, undergraduate student, Ph.D. students, and postdoctoral sequentially.

#### IV. FINDINGS AND DISCUSSIONS

##### 4.1. Respondents Demographic

Below table is to specify the age and gender background of the collected respondents during the survey.

Table 2. Demographic data of the survey (N=198)

	Frequency	Percentage	Cumulative Percentage
Age			
≤20	28	14.1	
21-30	139	70.2	
31-40	24	12.1	
41-50	4	2	
≥51	3	1.5	100
Gender			

Male	80	40.4	
Female	118	59.6	100

The study pictured out that Wuhan is the first most city in China with 53% Indonesian users of WeChat mobile payment innovation. Moreover, the remains Indonesian users are spreading around China with the percentages of 7.1% in Beijing, 2.5% in Nanjing, 5.6% in Shanghai, 5.1% in Chengdu, 3.5% in Changsha, 2.5% in Guangzhou and Chongqing, 1.5% in Tianjin and Jingzhou, 1.0% in Hangzhou, Qingdao, and Xi'an, while the remains 0.5% in Shenzhen, Xianning, Keifang, Kashgar, Huangshi, Harbin, Incheng, Haikou, Dongguang, Meizhou, Xianning, Zhejiang, Guilin, Xiamen, Quanzhou, and Jilin (refer to Figure 2).

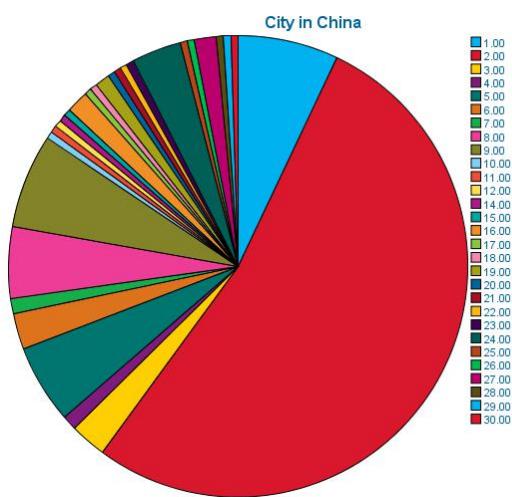


Fig. 2: Indonesian WeChat Pay users around city in China

Moreover talk, the duration used on WeChat mobile payment innovation by Indonesian are vary (refer to Figure 3). The study indicates that 29.8% of Indonesians in China are a user of WeChat mobile payment innovation for more and equal to 24.1 months. Followed by 29.3% for Indonesian WeChat Pay users for the period of 6.1 to 12 months, 19.2% for Indonesian WeChat Pay users for the period of 18.1 to 24 months, 16.2% for Indonesian WeChat Pay users for the period of 12.1 to 18 months, 5.6% for Indonesian WeChat Pay users for the period of equal or less than 6 months.

Additionally, the study released that most Indonesian users spent their expenses by the assistance of WeChat Pay for equal or less than 500 RMB (31.8%), 1001 to 1500 RMB (27.8%), 500.1 to 1000 RMB (25.8%), 1501 to 2000 RMB (8.1%), and equal or more than 2001 (6.6%) (refer to figure 4). Authors also proposed a question to the respondents about the intensity used of WeChat mobile payment for their daily expenses. Therefore, authors collected the respondents' answers

with grocery shopping (33.3%), printing shop (20.7%), Others (21.2%), transfer and receive money from relatives or friends (14.6%), and Transportation payment (10.1%) on the intensity used of WeChat mobile payment innovation in China sequentially (refer to Figure 5). Others define cellular mobile data top up, electricity payment; and all payment provided by WeChat Pay.

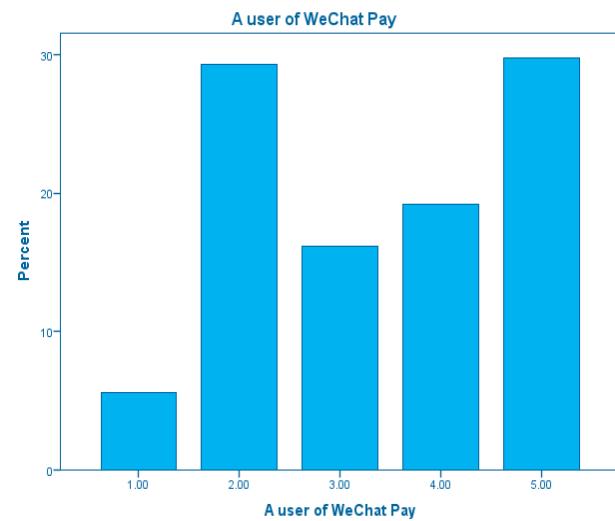


Fig. 3: Duration used on WeChat mobile payment innovation by Indonesian in China

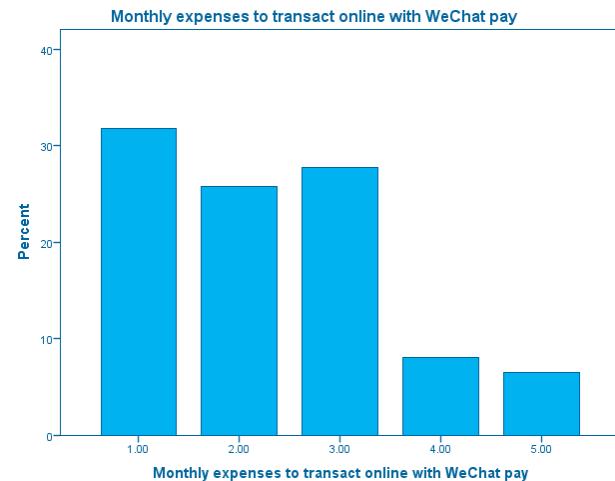


Fig. 4: Monthly online transaction expenses by the use of WeChat mobile payment

**4.2. Measurement Model and Structural Model Analysis**  
The study apply two approaches in determining the collected data. The approaches used consisting of measurement model and structural model.

#### 4.2.1. Measurement model analysis

The measurement model is applied to frame the reliability and validity of a data. Convergent validity, discriminant validity, and unidimensionality are applied for the measurement model analysis. Convergent validity is defined by its loading factors and Average Variance

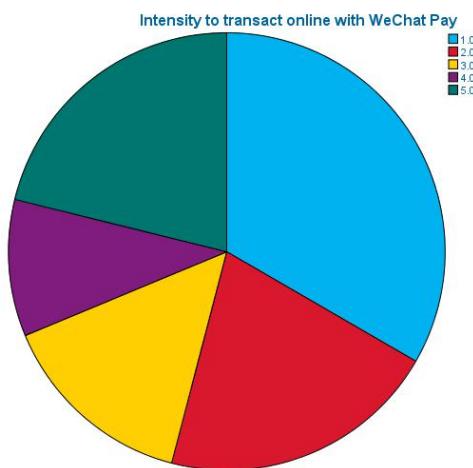


Fig. 5: Online intensity transaction with the use of WeChat mobile payment

Table 3. Measurement Model for its Reliability and Validity Analysis (N=198)

Construct	Cronbach's Alpha	Composite reliability	AVE	Item	Loadings
<b>Performance Expectancy</b>	0.975	0.982	0.931	PE1	0.969
				PE2	0.974
				PE3	0.957
				PE4	0.958
<b>Effort Expectancy</b>	0.977	0.983	0.935	EE1	0.968
				EE2	0.974
				EE3	0.963
				EE4	0.962
<b>Social Influence</b>	0.958	0.973	0.922	SI1	0.949
				SI2	0.960
				SI3	0.971
<b>Facilitating Conditions</b>	0.952	0.965	0.875	FC1	0.954
				FC2	0.940
				FC3	0.945
				FC4	0.900
<b>Perceived Technology Security</b>	0.964	0.974	0.902	PTS1	0.919
				PTS2	0.968
				PTS3	0.948
				PTS4	0.963
<b>Behavioral Intention to Adopt WeChat</b>	0.962	0.975	0.929	IA1	0.962
				IA2	0.980
				IA3	0.949
<b>Customer Satisfaction</b>	0.986	0.991	0.973	SAT1	0.984
				SAT2	0.990
				SAT3	0.986
<b>Behavioral Intention to Recommend WeChat</b>	0.965	0.975	0.906	IREC1	0.966
				IREC2	0.979
				IREC3	0.955
				IREC4	0.904

Extracted (AVE). Discriminant validity is determined by Fornell-Larcker Criterion. Unidimensionality is defined by the value on composite reliability and Cronbach's

Alpha in PLS-SEM construct reliability and validity. Therefore, the study framed out all measurement model analysis to be fully satisfied (refer to Table 3). The value

on Cronbach's Alpha, Composite Reliability, AVE, and Factor Loading have exceeded the minimum limit on each criterion. All the Cronbach's Alpha, composite reliability, and factor loadings on its respective constructs signified the value above 0.90. Moreover, most of the value on the Average Variance Extracted indicates a value that also surpasses the lowest criteria to satisfy the measurement

model analysis with the value above 0.90 and one construct indicates the range value of 0.875. The Fornell-Larcker Criterion in the study has been fully satisfied by the Average Variance Extracted square root value of each construct are greater than the correlation on each construct (refer to table 4).

Table.4: Fornell-Larcker Criterion: Matrix of Correlation Construct and the Square Root of AVE in Bold

	EE	FC	IA	IREC	PE	PTS	SAT	SI
EE	<b>0.967</b>							
FC	0.857	<b>0.935</b>						
IA	0.773	0.767	<b>0.964</b>					
IREC	0.728	0.678	0.673	<b>0.952</b>				
PE	0.835	0.776	0.739	0.794	<b>0.965</b>			
PTS	0.713	0.709	0.699	0.588	0.687	<b>0.950</b>		
SAT	0.687	0.698	0.752	0.646	0.660	0.668	<b>0.986</b>	
SI	0.392	0.342	0.369	0.449	0.457	0.314	0.329	<b>0.960</b>

#### 4.2.2. Structural model analysis

R Square (R<sup>2</sup>) value, path coefficients, and Goodness of Fit (GoF) Index are applied to determine the structural model analysis in the current study. According to (Hu & Bentler, 1999), the value of SRMR to satisfy the model fit (GoF) of a research data shall be < .08. Therefore, the study has also satisfied the model fit with the SRMR value of 0.079.

Table 5. Variance Explains of the Endogenous Latent Variable

	R Square
IA	0.676
IREC	0.497

Table 6: Hypothesis Analysis with Bootstrapping Approach

	Hypothesis	Path Coefficients	P Values	Results
<b>PE -&gt; IA</b>	1	0.172	0.240	Not Supported
<b>EE -&gt; IA</b>	2	0.224	0.141	Not Supported
<b>SI -&gt; IA</b>	3	0.041	0.359	Not Supported
<b>FC -&gt; IA</b>	4	0.277	0.052	Not Supported
<b>PTS -&gt; IA</b>	5	0.212	0.014	Supported
<b>IA -&gt; IREC</b>	6	0.431	0.000	Supported
<b>SAT -&gt; IREC</b>	7	0.322	0.004	Supported

Additionally, the variance explains indicates by R Square on behavioral intention to adopt WeChat mobile payment innovation (IA) is 0.676 (refer to Table 5). It has meaning that performance expectancy, effort expectancy, social influence, facilitating conditions, and perceived technology security have 67.6% variances explains on behavioral intention to adopt WeChat mobile payment innovation. Moreover, the remains 32.4% is determined by other factors.

Furthermore, behavioral intention to adopt WeChat mobile payment innovation and customer satisfaction signified 49.7% of the variance explains the behavioral intention to recommend WeChat mobile payment innovation (refer to Table 5). To be more detail, it also explains that the remains 50.3% is determined by other factors other than behavioral intention to adopt WeChat mobile payment innovation and customer satisfaction.

Additionally, path coefficients analysis was run under the bootstrapping method in the PLS-SEM to analyze the

established relationship of a hypothesis. Therefore, the study signified three supported hypothesis out of seven hypothesis (refer to Table 6). The path coefficient on performance expectancy, effort expectancy, social influences, and facilitating conditions to behavioral intention to adopt WeChat mobile payment innovation indicates a positive path coefficient value. Moreover, the indicated  $p$  values of performance expectancy, effort expectancy, social influence, and facilitating conditions to behavioral intention to adopt WeChat mobile payment innovation were released as having insignificant value. It is because the  $p$  values of the proposed hypothesis exceed the lower limit of the specified measure of  $p$  values that is above .050. Hence, H1, H2, H3, and H4 defines a positive insignificant relationship which leads to the proposed hypothesis rejection. However, perceived technology security was found to signify a positive significant relationship to the behavioral intention to adopt WeChat mobile payment innovation. It can be seen by the  $p$  values that indicates a value above the lower limit of the specified  $p$  values measure. The path coefficients have also indicated a positive value of 0.212. Hence, H5 confirmed the proposed hypothesis developed in the study.

At last, the behavioral intention to adopt WeChat mobile payment innovation and customer satisfaction denote to confirm the H6 and H7. The path coefficients on both behavioral intention to adopt WeChat mobile payment innovation and customer satisfaction to behavioral intention to recommend WeChat mobile payment innovation give forth a positive path coefficient value. Furthermore, its  $p$  values have pinpointed a significant value as it is indicating the result of greater value than the lower limit of the specified measure on  $p$  values. Speaking of, perceived technology security found to has indirect effects on the behavioral intention to recommend WeChat mobile payment innovation. It was defined as having an indirect effect by the evidence collected under current study that perceived technology security has a direct effect on behavioral intention to adopt WeChat mobile payment innovation. Moreover, behavioral intention to adopt WeChat mobile payment innovation provide the evidence under the study of having a direct effect on behavioral intention to recommend WeChat mobile payment innovation.

## V. CONCLUSIONS AND RECOMMENDATIONS

Indonesia is a startup country in the development of a cashless society. Government and practitioners have been searching and introducing cashless society in many ways as cash payment method has been the society payment pattern for many years back. Authors expected

to provide new insight to the government and practitioners in Indonesia about the mobile payment innovation as the representative of cashless society. Moreover, authors pick WeChat payment innovation in China to be the study objective with the fact that WeChat mobile payment innovation has taken over the leading mobile payment first rank around the world. Authors believe that by choosing China as the objective study to analyze the approach in introducing and marketing the mobile payment method to the society can lead to some fresh insight into Indonesia. It is because China and Indonesia are both categorized as developing countries in Asia which is believed to have some similarities.

Moreover, the study framed out that some of the proposed hypothesis appears in the study are not in line with the prior study as it has mentioned in the aforementioned proposed hypothesis. Performance expectancy, effort expectancy, social influence, and facilitating conditions are having a positive relationship but has no significant value. However, prior studies has also indicates a not significant relationship on performance expectancy (Attuquayefio & Addo, 2014), effort expectancy (Oliveira et al., 2016; Baptista 2016; Slade et al., 2015), social influence (Attuquayefio & Addo, 2014; Baptista, 2016), and facilitating conditions (Oliveira et al., 2016; Baptista, 2016) to behavioral intention to adopt particular technology. There is a possibility for the contrary of current finding with the former UTAUT 2 Theory introduced by Venkatesh et al (2012) due to WeChat mobile payment innovation in China was found to be something new for Indonesian users. Mobile payment with the means of social media chat application used is new for Indonesian. Firstly, the Indonesian government and practitioners are still searching out for the best path taken in introducing the mobile payment innovation to the society in Indonesia. However, some practitioners have performed their good existences in promoting the mobile payment method among the society in Indonesia. Hence, even though WeChat pay is ranked one over the world which made the social chat application payment as an unbreakable payment method during the current year of the present day, it cannot lead to a proper result when it comes to Indonesian users of WeChat pay in China. It might be happened due to Indonesian users in China are still learning in catching up with the present development technology of WeChat mobile payment innovation in China. Additionally, China is a country which upholds the sense of nationalism, even the WeChat mobile payment provide English version, there still have some Chinese version provide within the social chat application used. Hence, it can lead to a lack of understanding to Indonesian in China that actually are still searching out

for their second nature of using mobile payment approach. Moreover, the future study shall explore in more detail to satisfy the issues arise in the current findings.

Additionally, the study captured behavioral intention to adopt WeChat mobile payment innovation plays a major role in the intention to recommend the utilization of WeChat mobile payment innovation. The finding is consistent with the earlier research (Oliveira et al., 2016; Zhang et al., 2015; C. Xu et al., 2015). Indonesian found to have high intention to recommend WeChat mobile payment innovation in China to others. Hence, there might be some opportunities for Indonesian government or practitioners to learn the method used by WeChat enterprise in introducing the services. Even though Indonesian were found to have no significant relationship on performance expectancy, effort expectancy, social influence, and facilitating conditions, the people are testifying to have high interest to recommend WeChat mobile payment innovation. Authors found some interesting fact here which can lead to the future study of other researchers. Additionally, Customer satisfaction found to be the second influential determinant to the behavioral intention to recommend WeChat mobile payment innovation. The finding is consistent with earlier research that issued by C. Xu et al (2015), Suchánek et al (2017), and Finn et al (2009). The finding can be interpreted as a way once the satisfaction needed on Indonesian has been achieved, the person will be more likely to recommend WeChat mobile payment based on their experience.

Moreover, perceived technology security sequentially signified the remains influential determinants of behavioral intention to adopt WeChat mobile payment. The findings are in line with the prior study written by Oliveira et al (2016) and Mohammed & Tejay (2017). The supporting fact behind it, can happened from the emerged of WeChat mobile payment innovation that spreading all over the city side in China. Even to purchase in a vegetable market or street vendor WeChat pay can be used. Furthermore, once society or WeChat Pay users have applied using the mobile payment method not only in a giant market, but also street vendor, there might seems that the user experienced a perceived technology security. Hence, future researchers are able to discuss in more detail regarding the facts behind the high intention of Indonesian to adopt WeChat mobile payment in China. Overall proposed hypothesis, it seems that all of the hypothesis directed to the behavioral intention to recommend WeChat mobile payment innovation is significantly satisfied. Hence, the findings clearly defined that there is a big chance and lesson can be learned by the Indonesian government and practitioners from WeChat

mobile payment innovation in China to the development of mobile payment in Indonesia. Additionally, future research can consider to put concern on more specific targeted respondents as the current study has wider targeted respondents and resulting in unbalance collected city from one another. It is suggested that future study are able to frame other determinant factors on behavioral intention to adopt particular technology and the behavioral intention to recommend a particular digital technology.

## REFERENCES

- [1] Agusta, J., & Hutabarat, K. (2018). *Mobile Payments in Indonesia - Race to Big Data Domination*. Jakarta.
- [2] Attuquayefio, S. N., & Addo, H. (2014). Using the UTAUT model to analyze students ' ICT adoption. *International Journal of Education and Development Using Information and Communication Technology*, 10(3), 75–86.
- [3] Aveni, T., & Roest, J. (2017). *China's Alipay and WeChat Pay: Reaching Rural Users*. Washington, DC.
- [4] Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16(1), 74–94. <https://doi.org/10.1007/BF02723327>
- [5] Baptista, G. da C. A. M. M. (2016). *Mobile banking and mobile payment acceptance*. Universidade Nova de Lisboa.
- [6] Boellstorff, T., Mahardika, A., Pratiwi, T., Soraya, A., & Widaningrum, W. (2013). *Landscaping Mobile Social Media and Payments in Indonesia*.
- [7] Chang, A. (2012). Utaut and Utaut 2: A Review and Agenda for Future Research. *Journal The WINNERS*, 13(2), 106–114. <https://doi.org/10.21512/tw.v13i2.656>
- [8] Chen, C. C., & Huang, T. C. (2012). Learning in a u-Museum: Developing a context-aware ubiquitous learning environment. *Computers and Education*, 59(3), 873–883. <https://doi.org/10.1016/j.compedu.2012.04.003>
- [9] Dahlberg, T., Guo, J., & Ondrus, J. (2015). A critical review of mobile payment research. *Electronic Commerce Research and Applications*, 14(5), 265–284. <https://doi.org/10.1016/j.elerap.2015.07.006>
- [10] Dahlberg, T., Mallat, N., Ondrus, J., & Zmijewska, A. (2008). Past , present and future of mobile payments research : A literature review. *Electronic Commerce Research and Applications*, 7, 165–181. <https://doi.org/10.1016/j.elerap.2007.02.001>
- [11] Ferreira, M. C., Fontesz, T., Costa, V., Dias, T. G., Borges, J. L., & E Cunha, J. F. (2017). Evaluation

of an integrated mobile payment, route planner and social network solution for public transport. *Transportation Research Procedia*, 24, 189–196. <https://doi.org/10.1016/j.trpro.2017.05.107>

[12] Finn, A., Wang, L., & Frank, T. (2009). Attribute Perceptions, Customer Satisfaction and Intention to Recommend E-Services. *Journal of Interactive Marketing*, 23(3), 209–220. <https://doi.org/10.1016/j.intmar.2009.04.006>

[13] Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.2307/3151312>

[14] Gaurav, & Sharma. (2017, June 29). “Blood and Sand”: The Moment-of-Truth for Mobile Wallets in Asia. *Fintechnews Singapore*, pp. 1–10.

[15] Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>

[16] Jackson, J. D., Yi, M. Y., & Park, J. S. (2013). An empirical test of three mediation models for the relationship between personal innovativeness and user acceptance of technology. *Information and Management*, 50(4), 154–161. <https://doi.org/10.1016/j.im.2013.02.006>

[17] Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business Horizons*. <https://doi.org/10.1016/j.bushor.2009.09.003>

[18] Kemp, S. (2018). *Digital in 2018 in Essential Insights into Internet, Social Media, Mobile, and Ecommerce Use Around the World. We Are Social*.

[19] KPMG Indonesia. (2017). *Retail payments in Indonesia*.

[20] Matemba, E. D., & Li, G. (2017). Consumers' willingness to adopt and use WeChat wallet: An empirical study in South Africa. *Technology in Society*, 53, 55–68. <https://doi.org/10.1016/j.techsoc.2017.12.001>

[21] Mohammed, Z. A., & Tejay, G. P. (2017). Examining privacy concerns and ecommerce adoption in developing countries: The impact of culture in shaping individuals' perceptions toward technology. *Computers and Security*, 67, 254–265. <https://doi.org/10.1016/j.cose.2017.03.001>

[22] Nikou, S. A., & Economides, A. A. (2017). Mobile-based assessment: Investigating the factors that influence behavioral intention to use. *Computers and Education*, 109, 56–73. <https://doi.org/10.1016/j.compedu.2017.02.005>

[23] Nunnally, J., & Bernstein, I. (1994). *Psychometric Theory*, 3rd edn, 1994. McGraw-Hill, New York (3rd ed.). New York: McGraw-Hill.

[24] Oliveira, T., Thomas, M., Baptista, G., & Campos, F. (2016). Mobile payment: Understanding the determinants of customer adoption and intention to recommend the technology. *Computers in Human Behavior*, 61(2016), 404–414. <https://doi.org/10.1016/j.chb.2016.03.030>

[25] Purwanegara, M., Apriningsih, A., & Andika, F. (2014). Snapshot on Indonesia Regulation in Mobile Internet Banking Users Attitudes. *Procedia - Social and Behavioral Sciences*, 115(Icicies 2013), 147–155. <https://doi.org/10.1016/j.sbspro.2014.02.423>

[26] Rajanna, K. A. (2018). PERCEPTION AND AWARENESS OF CUSTOMER TOWARDS CASHLESS TRANSACTION; A CASE STUDY. *International Journal of Application or Innovation in Engineering and Management*, 7(3), 33–38.

[27] Rohm, A., Kaltcheva, V. D., & Milne, G. R. (2013). A mixed-method approach to examining brand-consumer interactions driven by social media. *Journal of Research in Interactive Marketing*, 7(4), 295–131.

[28] Senthil Kumar, N., Saravanakumar, K., & Deepa, K. (2016). On Privacy and Security in Social Media - A Comprehensive Study. *Procedia Computer Science*, 78(December 2015), 114–119. <https://doi.org/10.1016/j.procs.2016.02.019>

[29] Slade, E. L., Dwivedi, Y. K., Piercy, N. C., & Williams, M. D. (2015). Modeling Consumers' Adoption Intentions of Remote Mobile Payments in the United Kingdom: Extending UTAUT with Innovativeness, Risk, and Trust. *Psychology and Marketing*, 32(8), 860–873. <https://doi.org/10.1002/mar.20823>

[30] Statista. (2017). Leading Mobile Payment Platforms Worldwide. Retrieved May 25, 2018, from <https://www.statista.com/statistics/744944/mobile-payment-platforms-users/>

[31] Suchánek, P., Richter, J., & Králová, M. (2017). Customer Satisfaction with Quality of Products of Food Business. *Prague Economic Papers*, 26(1), 19–35. <https://doi.org/https://doi.org/10.18267/j.pep.595>

[32] Sung, H. N., Jeong, D. Y., Jeong, Y. S., & Shin, J. I. (2015). The relationship among self-efficacy, social influence, performance expectancy, effort expectancy, and behavioral intention in mobile learning service. *International Journal of U- and e-Service, Science and Technology*, 8(9), 197–206. <https://doi.org/10.14257/ijunesst.2015.8.9.21>

[33] Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance of Information Technology: Toward a unified view. *MIS Quarterly*, 27(3), 1-21. <https://doi.org/10.1017/CBO9781107415324.004>

[34] Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer Acceptance and Use of Information Technology : Extending the Unified Theory. *MIS Quarterly*, 36(1), 157–178. <https://doi.org/10.1017/CBO9781107415324.004>

[35] Wang, J., & Gu, L. (2017). Issues in Information Systems WHY IS WECHAT PAY SO POPULAR? *Information Systems*, 18(4), 1–8.

[36] Woetzel, J., Orr, G., Lau, A., Chen, Y., Chang, E., Seong, J., ... Qiu, A. (2014). *China 's digital transformation : The Internet 's impact on productivity and growth*. (L. Renaud & L. Lin, Eds.), *McKinsey Global Institute*. McKinsey Global Institute.

[37] Xu, C., Peak, D., & Prybutok, V. (2015). A customer value, satisfaction, and loyalty perspective of mobile application recommendations. *Decision Support Systems*, 79, 171–183. <https://doi.org/10.1016/j.dss.2015.08.008>

[38] Xu, W. (2017). The Study of WeChat Payment Users Willingness Factor. *Journal of Service Science and Management*, 10(03), 251–259. <https://doi.org/10.4236/jssm.2017.103021>

[39] Yu, T. K., Lin, M. L., & Liao, Y. K. (2017). Understanding factors influencing information communication technology adoption behavior: The moderators of information literacy and digital skills. *Computers in Human Behavior*, 71, 196–208. <https://doi.org/10.1016/j.chb.2017.02.005>

[40] Zhang, X., Wang, W., de Pablos, P. O., Tang, J., & Yan, X. (2015). Mapping development of social media research through different disciplines: Collaborative learning in management and computer science. *Computers in Human Behavior*, 51, 1142–1153. <https://doi.org/10.1016/j.chb.2015.02.034>

#### Appendix A. Questionnaires Items and Sources

Constructs	Items	Sources
Performance Expectancy	PE 1 - I find WeChat mobile payment innovation useful in my daily life PE 2 - Using WeChat Mobile Payment innovation helps me accomplish things more quickly.	Venkatesh et al., (2003,2012); Oliveira et al (2016)
Effort Expectancy	PE 3 - Using WeChat mobile payment innovation increases my productivity PE 4 - Using WeChat mobile payment innovation helps my work to be more effective EE 1 - Learning how to use WeChat mobile payment innovation is easy for me EE 2 - My interaction with WeChat mobile payment innovation is clear and understandable EE 3 - I find WeChat mobile payment innovation easy to use EE 4 - It is easy for me to become skillful at using WeChat mobile payment innovation	Venkatesh et al., (2003,2012); Oliveira et al (2016)
Social Influences	SI 1 - People who are important to me in China think that I should use WeChat Mobile Payment Innovation SI 2 - People who influence my behavior in China think that I should use WeChat Mobile Payment Innovation SI 3 - People whose opinions that I value the most in China prefer that I use WeChat mobile Payment Innovation	Venkatesh et al., (2003,2012); Oliveira et al (2016)
Facilitating Conditions	FC 1 - I have the resources necessary (smartphone and bank account) to use WeChat mobile payment innovation FC 2 - I have the knowledge necessary to use WeChat mobile payment innovation FC 3 - WeChat mobile payment innovation is compatible with other technologies I use FC 4 - I can get help from others when I have difficulties using WeChat mobile payment innovation	Venkatesh et al., (2012); Oliveira et al (2016)

Perceived Technology Security	PTS 1 - I would feel secure using mobile payment innovation like WeChat for activities relates to financial background  PTS 2 - Mobile payment innovation like WeChat is a secure means through which to send sensitive mobile  PTS 3 - I would feel totally safe providing sensitive information about myself over mobile payment innovation like WeChat  PTS 4 - Overall mobile payment innovation like WeChat is a safe place to send sensitive information	Oliveira et al., (2016); Z. A. Mohammed and G. P. Tejay (2017)
Behavioral Intention to Adopt WeChat Mobile Payment Innovation	IA 1 - I intend to continue using WeChat mobile payment innovation in the future  IA 2 - I will always try to use WeChat mobile payment innovation in my daily life  IA 3 - I plan to continue to use WeChat mobile payment innovation frequently	Venkatesh et al., (2003,2012); Oliveira et al (2016)
Customer Satisfaction	SAT 1 - I feel very satisfied with the overall experience of using mobile payment innovation like WeChat  SAT 2 - I am very pleased with the overall experience of using mobile payment innovation like Wechat  SAT 3 - I feel very delighted with the overall experience of using mobile payment innovation like WeChat	C. Xu, D. Peak, and V. Prybutok (2015)
Behavior Intention to recommend WeChat mobile payment innovation	IREC 1 - I intend to positive things about mobile payment innovation like WeChat  IREC 2 - I would like recommend mobile payment innovation like WeChat to my friend  IREC 3 - I intend to encourage other people to use mobile payment innovation like WeChat  IREC 4 - It will be grateful if mobile payment innovation like WeChat release in China can also be introduce and apply in Indonesia	Oliveira et al (2016)